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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,240	03/22/2004	Mari Sugihara	119182	9034
25944	7590	04/06/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			TON, TRI T	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/805,240	Applicant(s) SUGIHARA ET AL.	
	Examiner Tri T. Ton	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/18/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 05/18/2004 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Oath/Declaration

3. The Oath and Declaration filed on 03/22/2004 is acceptable.

Drawings

3. New corrected drawing in compliance with 37 CFR 1.121(d) is required in this application because plan view Figure 4Aa is not correct. Dashed lines instead of solid lines should represent the outlines of wiring pattern 21 constituting the underlying layer because the upper resist layer covers these outlines. Plan view Figure 4Aa should be shaded instead of mixed crosshatched and shaded lines, similarly to plan view Figure 4Ba, because surface of the substrate has the same material of resist layer 23.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

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The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1-6, 9-10, 12-13 are rejected under 35 U.S.C. 102(e) as being taught by Shibata (U.S. Patent No. 6,690,469 B1.)

Regarding Claim 1, Shibata teaches a defect inspection apparatus for inspecting defect comprising: an illumination optical system (column 4, line 44-46) for illuminating said substrate; a receiving optical system (column 4, line 52-54) for receiving diffracted light (column 4, line 51-52) from said substrate; and a polarizing element (column 4, line 46-47) provided in either one of said illumination optical system or said receiving optical system.

Regarding Claim 2, Shibata teaches a defect inspection apparatus for inspecting a defect comprising: an illumination optical system (column 4, line 44-46) for illuminating said substrate; a receiving optical system (column 4, line 52-54) for receiving diffracted light (column 4, line 51-52) from said substrate; a first

polarizing element (column 4, line 46-47) provided in said illumination optical system; and a second polarizing element (column 4, line 55-58) provided in said receiving optical system.

Regarding Claim 3, Shibata teaches a defect inspection apparatus further comprising a quarter wave plate (column 3, line 34-37).

Regarding Claim 4, 12 and 13, Shibata teaches a defect inspection apparatus further comprising image pickup (column 6, line 58-62), and image processing apparatus (column 7, line 2-4).

Regarding Claim 5, Shibata teaches a method of inspecting a defect comprising the steps of: illuminating said substrate with linearly polarized illumination light (column 4, line 46-50); picking up an image (column 6, line 58-62) of said substrate formed by diffracted light (column 6, line 51-53) from said substrate; and processing the picked up image (column 7, line 2-4).

Regarding Claim 6, Shibata teaches a method of inspecting a defect comprising the steps of: illuminating said substrate with illumination light (column 6, line 36-37); picking up an image (column 6, line 58-62) of said substrate formed by certain linearly polarized light (column 6, line 55-57) included in diffracted light from said substrate; and processing the picked up image (column 7, line 2-4).

Regarding Claim 9, Shibata teaches a method of inspecting a defect comprising the steps of: illuminating said substrate with linearly polarized illumination light (column 4, line 46-50); picking up an image (column 6, line 58-62) of said substrate formed by certain linearly polarized light (column 6, line 55-57) included

in diffracted light from said substrate; and processing the picked up image (column 7, line 2-4).

Regarding Claim 10, Shibata teaches a method of inspecting a defect comprising the steps of: illuminating said substrate with linearly polarized illumination light (column 4, line 46-50); picking up an image (column 6, line 58-62) of said substrate utilizing light remaining after certain linearly polarized light included in diffracted light from said substrate has been removed (column 6, line 51-57); and processing the picked up image (column 7, line 2-4).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (U.S. Patent No. 6,690,469 B1) in view of Nomoto et al. (U.S. Patent No. 5,973,777.)

8. As to claims 11, 14, 17 and 18, Shibata et al. teaches all the current invention are stated above except a method of inspecting hole pattern. Nomoto et al. teaches a method of inspecting hole pattern, in which a defect is detected (column 2, line 38-52). It would have been obvious to one having ordinary skill in the art at the time of inventor were made to modify Shibata et al. and incorporate the teaching of a method of

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inspecting a hole pattern is taught by Nomoto et al. in order to detect a defect of a hole pattern formed on a surface of a substrate.

9. Claim 7, 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (U.S. Patent No. 6,690,469 B1) in view of Aiyer (U.S. Patent 6,768,543 B1) and Nomoto et al. (U.S. Patent No. 5,973,777.)

As to claims 7 and 8, Shibata et al. teaches all the current invention are stated above except linearly S-polarized light included in the diffracted light. Aiyer teaches S-polarized light is used instead of P-polarized in defect inspection method (column 2, line 38-40.) It would have been obvious to one having ordinary skill in the art at the time of inventor were made to modify Shibata et al. and incorporate the teaching of a defect inspection method is taught by Aiyer in order to include in the diffracted light, S-polarized light.

As to claims 15 and 16, Shibata et al. teaches all the current invention are stated above except a method of inspecting hole pattern. Nomoto et al. teaches a method of inspecting hole pattern, in which a defect is detected (column 2, line 38-52). It would have been obvious to one having ordinary skill in the art at the time of inventor were made to modify Shibata et al. and incorporate the teaching of a method of inspecting a hole pattern is taught by Nomoto et al. in order to detect a defect of a hole pattern formed on a surface of a substrate.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shibata et al. (U.S Patent 6,690,469 B1); Aiyer (U.S. Patent 6,768,543 B1); Nomoto et al. (U.S Patent 5,973,777.)

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri T. Ton whose telephone number is (571) 272-9064. The examiner can normally be reached on 8:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 27, 2006

Examiner Tri Ton/SN



Layla Lauchman
Primary Patent Examiner
Art Unit 2877
Technology Center 2800